AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of operating a distributed Bragg reflector laser device, said method comprising the steps of:

~~using~~ operating a ~~first~~ feedback loop to adjust a characteristic of said laser device in response to a sensed wavelength of light output from said laser device; ~~and~~

~~using~~ operating a ~~second feedback~~tuning current loop to periodically adjust a tuning current applied to said laser device in response to a signal sensed ~~amplitude~~from a backface monitor of said laser device~~;~~ and

operating a power control loop to control a gain current applied to said laser device in response to a sensed signal output from the laser device, wherein said feedback loop is operationally nested inside said tuning current loop and said tuning current loop is operationally nested inside said power control loop, such that~~said step of using said second feedback loop occurs~~ during ~~said step of using~~ operation of said ~~first~~ feedback loop, said tuning current loop and the power control loop can both also be operated.

2. (Currently Amended) The method of claim 1, wherein the characteristic adjusted in response to said sensed wavelength ~~upon using~~during operation of said ~~first~~ feedback loop is the temperature of said laser device.

3. (Canceled).

4. (Currently Amended) The method of claim ~~3~~1, ~~further comprising the step of operating said third feedback~~wherein said power control loop is operated in response to ~~said~~ a sensed amplitude signal output from said laser device.

5. (Canceled).

6. (Currently Amended) The method of claim 2, ~~further comprising the step of using a third feedback~~wherein said power control loop ~~to~~ operates an amplifier associated with said laser device.

7. (Currently Amended) The method of claim 6, ~~further comprising the step of operating said third feedback~~wherein said power control loop is operated in response to the output power of said amplifier.

8. (Canceled).

9. (Original) The method of claim 2, further comprising the step of calculating transmission fraction data based on a reference power output and a filtered power output.

10. (Currently Amended) The method of claim 1, further comprising the step of using a backface loop to compensate for aging, said backface loop being operated based on signals from ~~a~~ said backface monitor.

11. (Previously Amended) A method of starting-up a tunable light source, said method comprising the steps of:

ramping a tuning current applied to said tunable light source through a predetermined range of current levels within an operating mode;

generating a data curve representing the relationship between the applied tuning current and the amplitude of a signal output from said tunable light source;

storing said curve data in a first memory region;

providing look-up data in a second memory region, said look-up data being representative of mode-hopping values for said tunable light source;

with reference to said look-up data and said generated curve data, calculating a value representative of an optimal tuning current for said tunable light source; and

applying said optimal tuning current to said tunable light source.

12. (Original) The method of claim 11, further comprising the step of adjusting the temperature of said tunable light source, and wherein said step of applying said tuning current occurs during said step of adjusting the temperature of said tunable light source.

13. (Previously Amended) The method of claim 12, further comprising the step of generating and storing curve data in said first memory region corresponding to the relationship between the applied tuning current and the amplitude of a signal output from said tunable light source for a second operating mode.

14. (Previously Amended) The method of claim 13, further comprising the step of applying a second tuning current signal to said tunable light source based on said curve data for said second operating mode.

15. (Previously Amended) A method of operating a laser device in a plurality of wavelength channels, said method comprising the steps of:

ramping a tuning current applied to said laser device through a predetermined range of current levels for a first wavelength;

generating and storing a data curve representing the relationship between the applied tuning current and the amplitude of a signal output from said tunable light source for said first wavelength;

ramping said tuning current applied to said laser device through a predetermined range of current levels for a second wavelength;

generating and storing a data curve representing the relationship between the applied tuning current and the amplitude of said signal output from said tunable light source for said second wavelength;

operating said laser device at saidfirst wavelength; and

operating said laser device at said second wavelength,

wherein said second wavelength is different than said first wavelength.

16. (Previously Amended) The method of claim 15, wherein

said step of operating said laser device at said first wavelength comprises applying to said laser device said tuning current having a level determined based on said data curve for said first wavelength, and

said step of operating said laser device at said second wavelength comprises applying to said laser device said tuning current having a level determined based on said data curve for said second wavelength.

17. (Original) The method of claim 15, further comprising the step of using a thermo-electric cooler to control the temperature of said laser device, and wherein said thermo-electric cooler is operated by a digital feedback loop.

18. (Original) The method of claim 15, further comprising the step of monitoring the amplitude developed at the backface of the laser device.

19. (Previously Amended) A method of stabilizing a laser device, said method comprising the steps of:

adjusting a gain current applied to said laser device in response to signals output at the backface of said laser device to keep the power at the backface of said laser device at a constant level;

adjusting a tuning current applied to said laser device in response to output power of said laser device; and

simultaneously, adjusting a wavelength characteristic of said laser device in response to an optically filtered transmission fraction of said output power.

20. (Previously Amended) The method of claim 19, wherein said adjusting steps are performed by a programmed microprocessor.